Supplementary materials data 1: Proteins purification

E.Coli UvrD and MutL purification

A 6L culture of ER2566 cells (NEB) containing either pTYB1-MutL or pTYB3-UvrD was grown at 37°C and induced with 0.5 mM isopropyl-beta-D-thiogalactopyranoside at OD_{550} ~ 0.5. After an overnight incubation at 15°C, cells were harvested, resuspended in 210 ml sonication buffer (20mM Tris-HCl pH 7.8, 0.1mM Na_2EDTA, 50 mM NaCl, 20 μM PMSF, 5% glycerol) and sonicated. All subsequent procedures were performed at 4°C.

MutL clarified extract was loaded on a 14 mL chitin bead column pre-equilibrated with 10 column volumes (CV) of buffer A (20 mM Tris-HCl (pH 8), 1 mM EDTA)+ 500 mM NaCl. The column was washed with 10 CV buffer A + 1 M NaCl and 10 CV buffer A + 500 mM NaCl. Induction of the self-cleavage was conducted by flushing the column with 3 CV of cleavage buffer (buffer A+ 200 mM NaCl + 50 mM DTT). After 64 h incubation, the cleaved protein was eluted with 30 ml buffer A + 50 mM NaCl. Bradford positive fractions were pooled and diluted down to 85mM NaCl before being applied on a 1 ml-SourceQ column (Amersham Biosciences). MutL eluted at 230mM NaCl and was dialyzed overnight against the storage buffer (25 mM Tris-HCl (pH7.5), 200 mM NaCl, 1 mM Na_2EDTA, 2 mM DTT, 50% glycerol).

UvrD clarified extract was loaded on a 45 mL chitin bead column and was purified similarly to MutL except that the cleavage buffer contained 500mM NaCl instead of 200 mM. The eluted UvrD protein was then purified on a 1 ml-MonoQ column (Amersham Biosciences). The protein was present in the flow-through and the wash which were

finally mixed. This sample was loaded on a 1 ml-Heparin TSK column (Pharmacia). UvrD flew through and was then bound on a 1ml-hydroxyapatite column (Toso Haas). UvrD eluted at ~ 340 mM NaCl. Pure fractions were pooled and dialyzed overnight against storage buffer (20 mM Tris-HCl (pH8), 200 mM NaCl, 1 mM NA_2EDTA, 1 mM EGTA, 15 mM 2-mercaptoethanol, 50% glycerol).

RB49 SSB purification

A 4L culture of ER2566 cells (NEB) containing pTXB1-RB49SSB was grown at 37°C and induced with 0.3 mM isopropyl-beta-D-thiogalactopyranoside at OD_{550} ~ 0.7. After an overnight incubation at 15°C, cells were harvested, resuspended in 140 ml buffer A (20 mM Tris-HCl (pH 8), 1 mM EDTA) + 500 mM NaCl and sonicated. All subsequent procedures were performed at 4°C. RB49 SSB clarified extract was loaded on a 14 mL chitin bead column and was purified similarly to MutL except that the cleavage buffer contained 350mM NaCl instead of 200 mM. Bradford positive fractions were pooled and diluted down to 70 mM NaCl before being applied on a 1 ml-SourceQ column (Amersham Biosciences). Elution fractions of interest were pooled, diluted down to 50mM NaCl and applied on a 5-mL Hi-Trap Heparin column HP (Amersham Biosciences). RB49 SSB eluted at 470mM NaCl. Pure fractions were pooled and dialyzed overnight against storage buffer (20 mM Tris-HCl (pH8), 200 mM NaCl, 1 mM NA_2EDTA, 0.8 mM DTT, 50% glycerol).

Supplementary materials data 2: HDA primers table

Name	Oligodeoxynucleotide
Primer 1224	CGCCAGGGTTTTCCCAGTCACGAC
Primer 1233	AGCGGATAACAATTTCACACAGGA
Primer Ea136for	GAATTGAAGGAATTAAACCAAA
Primer Ea136rev	GATCCATTTCATAAGCCTCTCTTGGATC
Primer Ea1for	ATGAGTAGGCGTGAAGTAAA
Primer Ea81rev	ATTGTTACATTGTACACATACA
Primer Gp98for	ATGATGCCGTCGCCAGTA
Primer Gp188rev	ATTCGGCTGAAAGATAATACA
Primer Bm182for	CTAATTAAGTGCCAAAACTAC
Primer Bm261rev	ATGACAACACAATACACGAC
Primer Ea175LUX	cacatttTGAAACACAAGAATGGAAATGTG[a]
Primer Ea175-Rev	GGCCAGTTTGAATAAGACAATG

[a] Low nucleotides in lower case letter are not present in the target sequence and the underline T in primer-175-LUX is labeled with fluorescent dye

Supplementary materials data 3: Preparation of reconstituted human blood samples

B. malayi genomic DNA was isolated from frozen microfilariae. After extraction in 100 mM Tris-HCL (pH8), 50 mM NaCl, 50 mM Na_2EDTA and 1% SDS, the ground material was digested with proteinase K (Qiagen) (100 ug/mL, 4h at 55°C). The digested sample was extracted with an equal volume of phenol, phenol-chloroform and chloroform and finally ethanol precipitated. DNA was resuspended in 10 mM Tris-HCL (pH 7,5), 0,2 mM EDTA and its concentration was determined by reading the absorbance at 260 nm. The blood was collected from a North American volunteer from a non endemic area and mixed with Na_2EDTA to a final concentration of 0,1 M. 1 to 1000 ng *Brugia malayi* genomic DNA were added to 200 ul of blood. For the negative control, water was added instead of genomic DNA. Samples were extracted with an equal volume of phenol, phenol-chloroform and chloroform. Each sample was dialyzed on a microfiltration membrane filter (0.025 um, Millipore) against 5mM Tris-HCL, pH 7,5, 0,1 mM Na_2EDTA for 5h at room temperature. 1 ul of the final samples was used in HDA reactions.